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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/782,184	02/12/2001	Howard Sands	12636-898	6040

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EXAMINER	
GOLLAMUDI, SHARMILA S	
ART UNIT	PAPER NUMBER
1616	

DATE MAILED: 01/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/782,184	Applicant(s) SANDS ET AL.	
	Examiner Sharmila S. Gollamudi	Art Unit 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *14* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

The Request for Continued Examination, Preliminary Amendment B, and Information Disclosure received on November 13, 2002 are acknowledged. Claims 1-36 are included in the prosecution of this application.

Drawings

New corrected drawings are required in this application because the drawings are objected to by Draftsperson under 37 CFR 1.84 (g). Note attached Draftsperson's Review.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-36 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The phrase "pharmacologically acceptable liquid that does not tend to form micelle structures" does not have support in the specification as originally filed since recited microdroplets can be construed as micelles.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11

F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 19 and 34-36 rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3 of U.S. Patent No. 6,509,027 (Pub No. 2002/0142048). Although the conflicting claims are not identical, they are not patentably distinct from each other because instant application and US patent are related as genus-species.

Independent claim 19 recites an injectable composition comprising an aqueous carrier, a dispersion of liquid droplets, a substantially water-insoluble lipophilic liquid, solid particles of camptothecin, and a outer layer surrounding the droplet comprising are least one membrane-forming amphipathic lipid. Dependent claims 34-36 recite camptothecin species.

US patent '027 recites an injectable pharmaceutical composition comprising aqueous suspension of solid particles camptothecin and a .3nm to 3 micron thick outer layer comprising a membrane forming amphiphathic lipid. Dependent claims recite a camptothecin species.

Instant application reads on US patent and vice-versa since comprising language of US patent does not excluded the liquid droplets.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-8 and12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haynes (4725442) by itself or in view of Burke (5552156).

Haynes discloses microdroplets (200 angstroms up to a micron) of water insoluble drugs containing a pharmaceutically acceptable liquid surrounded by a layer of phospholipid, which are suitable for injection (Note the abstract, columns 2-8, and claims). Haynes discloses the phospholipids that can be used (col. 5 and 6, line 56 to line 42). Although Haynes discloses his invention using anesthetics in examples, according to the reference, the composition can be used to deliver any water insoluble/oil soluble drug via injection (col. 1, lines 26-39). Haynes further teaches anti-cancer agents as the drugs which can be practiced in his invention (note col. 8, lines 27-28 and claim 15).

Hayes does not specifically teach camptothecins as the anti-cancer drug.

Burke teaches camptothecin drugs encapsulated by lipids to overcome the insolubility and instability problems of camptothecin for intravenous administration. Burke further discloses that the lipid encapsulation creates an internal environment with a low pH to prevent hydrolysis of camptothecin drugs. (Note abstract)

It is deemed obvious to one of ordinary skill in the art to use any hydrophobic drug including camptothecins, known in the art as a hydrophobic anticancer drug, with a reasonable expectation of success since Haynes provides the general guidance to prepare the compositions. One would be motivated to do so since Haynes suggests the incorporation of anticancer drugs into the formulation.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to encapsulate camptothecins in Haynes's phospholipid layers. One would be motivated to do so since Burke teaches the advantages of encapsulating camptothecins in phospholipid structures to successfully deliver instant cancer drugs by overcoming instability and insolubility problems.

Claims 9-11 and 18-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haynes (4725442) cited above or in combination with Burke cited above, further in view of WO 99/61001.

As set forth above, Haynes discloses microdroplets (200 angstroms up to a micron) of water insoluble drugs containing a pharmaceutically acceptable liquid surrounded by a layer of phospholipid (Note the abstract, columns 2-8, and claims). Although Haynes discloses his invention using anesthetics in examples, according to the reference, the composition can be used to deliver any water insoluble/oil soluble drug via injection (col. 1, lines 26-39). Haynes further teaches that anticancer agents can be practiced in his invention (note col. 8, lines 27-28). As also pointed out above, Burke teaches claimed camptothecins encapsulated in a lipid structure.

Haynes and Burke do not teach the inclusion of sugars such as mannitol or trehalose. The references also do not explicitly teach that the phospholipid-coated material can be sterilized.

WO 99/61001 discloses suspensions of submicron and micron sized particles of water insoluble biologically active substances containing lipoid and surface modifiers, phospholipids. The reference also teaches that sugars such as trehalose and mannitol are thermoprotecting agents and should be included for protection during sterilization (note the abstract, examples and claims). The reference also teaches the use of Lipoid E80 (Table 1).

The inclusion of sugars such as trehalose or mannitol in the compositions of Haynes or Haynes and Burke would have been obvious to one of ordinary skill in the art at the time the invention was made. One would be motivated to do so since WO teaches that the instant sugars are thermoprotectants and protect the phospholipid particle suspensions during sterilization.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharmila S. Gollamudi whose telephone number is 703-305-2147. The examiner can normally be reached on M-F (7:30-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jose Dees can be reached on 703-308-4628. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-3014 for regular communications and 703-305-3014 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 709-3080196.

SSG
January 14, 2003

MICHAEL G. HARTLEY
PRIMARY EXAMINER